

Biosecurity

- ✓ Exemplary use of biosecurity measures can:
 - ☐ Prevent widespread infection by protecting the general public and the people involved in containing an outbreak
 - ☐ Prevent further disease spread by containing the infectious agent through cleaning and disinfection of contaminated premises, equipment, vehicles, & personnel
 - ☐ Control the infectious agent and limit the magnitude of an outbreak, should one occur

Setting Up the CRZ

- ✓ The CRZ should be set up to allow personnel to enter/exit the zone without the risk of becoming contaminated or spreading contaminants. The CRZ includes:
 - ☐ Decontamination corridor for personnel/PPE
 - ☐ Emergency decontamination
 - ☐ A slightly sloped impervious surface that facilitates disinfectant collection, such as a plastic ground cover at least 10 x 10 meters
 - ☐ A water supply and collection system
 - ☐ The assurance that run-off water is collected or flows back into the EZ

Movement Through the CRZ

- ✓ Authorized personnel working in the secured EZ enter and exit into the CRZ via one or two sites
- ✓ All other possible entrances remain secured

Personnel Biosecurity

- ✓ Primary movement from the EZ to the CRZ requires:
 - ☐ A personnel washing station in an area nearest to the EZ supplied with water and disinfectants
 - ☐ Exterior protective clothing must be scrubbed or sprayed off
 - ☐ Boots, coveralls, and gloved hands must be thoroughly washed

Biosecurity (Cont.)

- ✓ Secondary movement into an enclosed area near the SZ is where personnel remove PPE as follows:
 - ☐ Always remove protective clothing first and discard or secure the clothing for disinfection
 - ☐ Remove respirators and goggles
 - ☐ Remove gloves last, by turning gloves inside out and using one gloved hand to remove the other glove
 - ☐ Place clothing and equipment in prepared bins for disposal or cleaning
 - ☐ Properly discard disposable items as infectious waste in accordance with all applicable regulations
 - ☐ Clean/disinfect non-disposable items
- ✓ The third area of movement progresses nearer to the SZ where personnel:
 - ☐ Enter showering facilities
 - ☐ Wash hair
 - ☐ Wash hands and all body surfaces
- ✓ After exiting shower facilities personnel move to a fourth area where clean clothing is stored

Vector Control

- ✓ Openings where wild birds and rodents can gain entry to the house must be eliminated
- ✓ Insect and rodent control products must be applied as soon as the flock is removed **and** while the building is still warm
- ✓ Dead insects and rodents must be removed
- ✓ Insecticides must be used on the inside and outside perimeters of the building
- ✓ Rodenticides must be placed along established runways after all feed is removed from the feeders, prior to cleaning the feed system



Procedures for Cleaning and Disinfection of AI-Infected Poultry Carcasses

PPE Requirements

- ✓ To reduce the risk of exposure to HPAI when performing cleaning and disinfection duties, it is important that you wear the proper PPE:
 - ☐ Coveralls - must either be disposable or suitable for disinfection by spraying with a disinfectant solution; coveralls/surgical gowns with long cuffed sleeves plus an impermeable apron are preferable
 - ☐ Respirators - a fluid resistant N-95 respirator or higher is recommended for personnel at risk of exposure to splash or fluids; a powered, air-purifying respirator (PAPR) is recommended for highly strenuous and high exposure work
 - ☐ Boots or shoe covers - rugged impermeable boots that can be disinfected or discarded
 - ☐ Gloves - should be capable of disinfection or disposal; chemical-resistant tape may be used to secure sleeves over gloves and coverall legs inside of rubber boots
 - ☐ Eye protection should include non-vented eye goggles, indirectly vented eye goggles with anti-fog coating, or alternative respirator with full face piece, hood or helmet
 - ☐ Head protection – includes hard hat, hood, and disposable head cover

Cleaning

- ✓ The cleaning process includes four basic steps:
 - ☐ Dry cleaning
 - ☐ Wet washing
 - ☐ Rinsing
 - ☐ Drying
- ✓ Dry cleaning - advantages
 - ☐ Allows thorough removal of organic debris
 - ☐ Aids in efficiency of disinfectants
 - ☐ Currently recommended by USDA APHIS HPAI Plan
 - ☐ Dust can be controlled by first spraying a disinfectant or water/disinfectant solution
- ✓ Dry cleaning - disadvantages
 - ☐ Potential to create more aerosols and generate dust
 - ☐ Greater risk of disseminating zoonotic pathogens through ventilation systems
 - ☐ All fans, air filters and ventilation systems must be closed off prior to cleaning
- ✓ Wet cleaning - advantages
 - ☐ Steam cleaning while concurrently disinfecting may decrease aerosols
 - ☐ Virus can be inactivated with warm water
 - ☐ Warm water aids in removing organic debris
 - ☐ Combining water and detergent aids in removing residual dust and organic debris, and decreases viral load
- ✓ Wet cleaning - disadvantages
 - ☐ May require prolonged soaking time
 - ☐ High pressure washing may generate aerosols

Disinfection

- ✓ Disinfection methods include:
 - ☐ Pressurized spray - most effective method to force disinfectants into wood pores and cracks

Disinfection (cont.)

- ☐ Thermonebulization - utilizes a process of fine fogging and heat
- ☐ Fumigation - not recommended for use, nor commonly used
- ☐ Controlled flame - relatively newer method to disinfect floors
- ☐ Electrostatic - charged sprayed on particles cling to surface of area to be disinfected
- ☐ Foam - clings to surfaces longer than liquids
- ☐ Heat - raising the temperature in an empty house prior to cleaning and disinfection may help reduce AI viral counts and enhance the disinfection process

Work Zones and Control Areas

- ✓ Identifying and designating work zones in the area of operations, and control areas on premises, may help prevent the transmission of the HPAI virus during cleaning and disinfection

Work Zones

- ✓ Work zones are small areas that only apply to specific premises and are identified as:
 - ☐ Exclusion Zone (EZ)/Red Zone/Hot Zone
 - ☐ Contamination Reduction Zone (CRZ)/Yellow Zone/Warm Zone
 - ☐ Support Zone (SZ)/Green Zone/Cold Zone
- ✓ Entry/exit sites must be strictly monitored and enforced

Control Areas

- ✓ Control areas, in comparison to the smaller work zones areas of a specific premises, are another means of preventing HPAI transmission by monitoring movement around the quarantine zone
- ✓ The quarantine zone may be miles in diameter and may include many premises

Loading Procedures

- ✓ Drivers should wear PPE at all times
- ✓ Drivers should remain seated within the vehicle while the truck is loaded with all windows and doors closed
 - ☐ Loading bird carcasses: When the container is full or meets the maximum weight limit, the bird carcasses should be sprayed again with Virkon S
 - ☐ Loading eggs and carcasses: One foot of wood shavings/sawdust should be alternated with a third of the load until the container is full; one foot of wood shavings/sawdust should then top off the load
- ✓ Once vehicles have been loaded, the plastic liner should be folded over itself; use duct tape or tie downs to secure
- ✓ Vehicles should be thoroughly inspected before departure to minimize risk of virus dissemination in transit

Transport Procedures

- ✓ Use a prearranged route
- ✓ No planned stops are permitted; therefore, vehicles should be fully fueled and drivers should take breaks beforehand
- ✓ Vehicle speeds must be kept at a minimum (no greater than 30 mph) to decrease the risk of spreading the virus en route to the disposal site

Emergency Situations

- ✓ Be prepared for:
 - ☐ Temporary storage
 - ☐ Spills/excess leakage
 - ☐ Vehicular problems
 - ☐ Adverse weather
 - ☐ Terrorist attack